ABSTRACT OF THE DISCLOSURE

A circuit for controlling an ac machine comprises a full bridge network of commutation switches which are connected to supply current for a corresponding voltage phase to the stator windings, a plurality of diodes, each in parallel connection to a respective one of the commutation switches, a plurality of dc source connections providing a multi-level dc bus for the full bridge network of commutation switches to produce sinusoidal voltages or PWM signals, and a controller connected for control of said dc source connections and said full bridge network of commutation switches to output substantially sinusoidal voltages to the stator windings. With the invention, the number of semiconductor switches is reduced to $m+3$ for a multi-level dc bus having m levels. A method of machine control is also disclosed.